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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,106	12/01/2003	Robert C. Lovell JR.	2500.0017C	1422
27896 7590 10/09/2007 EDELL, SHAPIRO & FINNAN, LLC 1901 RESEARCH BOULEVARD SUITE 400 ROCKVILLE, MD 20850			EXAMINER CHAN, RICHARD	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 10/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/724,106

Applicant(s)

LOVELL ET AL.

Examiner

Richard Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, Pre-Appeal Brief Request, filed 3/28/07, with respect to the rejection(s) of claim(s) 1, 3-5, 7, 9-12 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Haumont (US 2005/0108417).

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1,3-5, 7, and 9-12 is rejected under 35 U.S.C. 103(a) as being unpatentable over McIntosh (US 2003/0171119 A1) in view of Serbetciouglu (US 5,719,918) and Haumont (US 2005/0108417).

With respect to claim 1, McIntosh discloses the method for routing a message from a first mobile 136 station to a second mobile station 144, comprising: receiving a routing request from a third party 100 for routing a message from the first mobile station 136 to the second mobile station 144, the routing request being received by an intermediary 104 and 110b; wherein the

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intermediary operates neither a physical home location register (HLR) which is described in detail with Fig.4 (Paragraph 0039); wherein determining to which carrier the second mobile station subscribes; and wherein the steps of receiving and returning employ SS7 150 (Paragraph 0039), however the McIntosh reference does not disclose wherein the intermediary process implements a non-physical mobile switching center and wherein creating an artificial International Mobile Subscriber Identity (IMSI) value based, at least in part, on the carrier to which the second mobile station subscribes; and returning a routing response from the intermediary to the third party for routing the message from the first mobile station to the second mobile station wherein, the routing response including the artificial IMSI value, such that the intermediary is considered, from the point of view of the third party, as a mobile switching center.

The Serbetciouglu reference however discloses a virtual mobile switching center 502 in Fig.5 which is used to simulate a physical switching center 302 which is then used to interface to the rest of the network disclosed in Fig.5 (Col.8 lines 52-64)

It would have been obvious to one of ordinary skill in the art to implement a virtual mobile switching center as disclosed by Serbetciouglu to replace the physical MSC as disclosed by McIntosh in order to reduce physical space and implement dynamic software to take place of static hardware implementations.

The Haumont reference discloses the dynamic selection of an international subscriber identification (IMSI) value in Fig.3. IMSI selection takes place 312A which can be at the request of the network. (Paragraph 0042)

It would have been obvious to one of ordinary skill in the art to implement a dynamic selection of the IMSI value by the carrier as disclosed by Haumont to the method of routing a message as disclosed by McIntosh in order to identify the user mobile station and determine to which carrier the users mobile unit belongs to.

With respect to claim 3, McIntosh, Serbetciouglu, and Haumont combined disclose the method according to claim 1, wherein determining to which carrier the second mobile subscribes includes performing a lookup of the second mobile station against a database 128 including a plurality of mobile stations associated with a plurality of carriers so that the intermediary functions as a virtual home location register. [0034]

With respect to claim 4, McIntosh, Serbetciouglu, and Haumont combined disclose the method according to claim 1, wherein the second mobile station is a domestic mobile station, and the carrier to which the second mobile station subscribes and the intermediary are in geographic proximity. [Fig.3]

With respect to claim 5, McIntosh, Serbetciouglu, and Haumont combined disclose the method according to claim 4, wherein the first mobile station is an international mobile station and a carrier associated with the first mobile station is on a Global System for Mobile Communication (GSM) network. [0035]

With respect to claim 7, McIntosh discloses the method for routing a Global System for Mobile Communication (GSM) [0035] Mobile Application Part (MAP) Send Routing Info for Short Message (SRI for SM) message from a third party in connection with sending a message from a first mobile station 136 on a GSM network to a second mobile station 144 ,[0038] comprising: receiving a routing request from the third party for routing a message from the first mobile station to the second mobile station, the routing request being received by an intermediary via a SS7 network; [0027] determining to which carrier the second mobile station subscribes; [0032-0035] however McIntosh does not specifically disclose dynamically creating an artificial International Mobile Subscriber Identify (IMSI) value based, at least in part, on the carrier to which the second mobile station subscribes; and returning a routing response from the intermediary to the third party for routing the message from the first mobile station to the second mobile station, the routing response including the artificial IMSE value, such that the intermediary is considered, from the point of view of the third party, as a mobile switching center.

The Serbetciouglu reference however discloses a virtual mobile switching center 502 in Fig.5 which is used to simulate a physical switching center 302 which is then used to interface to the rest of the network disclosed in Fig.5 (Col.8 lines 52-64)

It would have been obvious to one of ordinary skill in the art to implement a virtual mobile switching center as disclosed by Serbetciouglu to replace the physical MSC as disclosed by McIntosh in order to reduce physical space and implement dynamic software to take place of static hardware implementations.

The Haumont reference discloses the dynamic selection of an international subscriber identification (IMSI) value in Fig.3. IMSI selection takes place 312A, which can be at the request of the network. (Paragraph 0042)

It would have been obvious to one of ordinary skill in the art to implement a dynamic selection of the IMSI value by the carrier as disclosed by Haumont to the method of routing a message as disclosed by McIntosh in order to identify the user mobile station and determine to which carrier the users mobile unit belongs to.

With respect to claim 9, McIntosh, Serbetciouglu, and Haumont combined disclose the method according to claim 7, wherein determining to which carrier the second mobile subscribes includes performing a lookup of the second mobile station against a database 128 including a plurality of mobile stations associated with a plurality of carriers, whereby the intermediary functions as a virtual home location register. [0034]

With respect to claim 10, McIntosh, Serbetciouglu, and Haumont combined disclose the method according to claim 7, wherein the second mobile station is a domestic mobile station and the carrier to which the second mobile station subscribes and the intermediary are in geographic proximity. [0034]

With respect to claim 11, McIntosh discloses a virtual network device 128 Fig.4 configured to receive routing requests from third parties for routing a message from one mobile station 136 to another mobile station 144 and to return routing responses to the third parties

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network 100 Fig.3; an intermediary comprising: a gateway interface device including a database HLR 116 storing a plurality of mobile station identifiers associated with a plurality of carriers (Paragraph 33), the gateway interface device being configured to perform a lookup to determine to which carrier the second mobile subscribes when provided a specific mobile station identifier and to return the carrier associated with the specific mobile station identifier,(Paragraph 0036), however McIntosh does not specifically disclose wherein the gateway interface device being configured to create an artificial international mobile subscriber identity (IMSI) value based, at least in part, on the associated carrier and to provide to the virtual network device the artificial IMSI value such that the intermediary appears, from the point of view of third parties, as a mobile switching center and wherein the virtual network device and the gateway interface device communicate such that, from the point of view of third parties, the intermediary appears to operate a HLR and a MSC.

The Haumont reference discloses the dynamic selection of an international subscriber identification (IMSI) value in Fig.3. IMSI selection takes place 312A which can be at the request of the network. (Paragraph 0042)

It would have been obvious to one of ordinary skill in the art to implement a dynamic selection of the IMSI value by the carrier as disclosed by Haumont to the method of routing a message as disclosed by McIntosh in order to identify the user mobile station and determine to which carrier the users mobile unit belongs to.

The Serbetciouglu reference however discloses a virtual mobile switching center 502 in Fig.5 which is used to simulate a physical switching center 302 which is then used to interface to



the rest of the next work disclosed in Fig.5 (Col.8 lines 52-64) which from the view of third parties would seem to operate a HLR and a MSC.

It would have been obvious to one of ordinary skill in the art to implement a virtual mobile switching center as disclosed by Serbetciougle to replace the physical MSC as disclosed by McIntosh in order to reduce physical space and implement dynamic software to take place of static hardware implementations.

With respect to claim 12 McIntosh, Serbetciouglu, and Haumont combined disclose the method according to claim 11, however McIntosh continues to disclose wherein the intermediary periodically uploads information including mobile station identifiers of carriers supported by the intermediary to the third parties. [0033]

4. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McIntosh (US 2003/0171119 A1) and Serbetciouglu (US 5,719,918) and Haumont (US 2005/0108417) in view of Lam (US 6,782,276).

With respect to claim 2 and 8, McIntosh, Serbetciouglu, and Haumont combined disclose the method according to claim 1 and 7, however does not disclose wherein the mobile switching center is a virtual mobile switching center.

The Lam reference however discloses wherein a mobile switching center is a virtual mobile switching center 31 that is implemented within a SS7 protocol environment. (Col.4 lines 12-30)

It would have been obvious to one of ordinary skill in the art to implement the Virtual Mobile Switching Center technique as described by Lam with the method of routing a message as disclosed by McIntosh in order to effectively distribute message requests between multiple end user devices with each other.

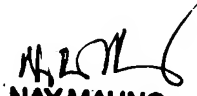
***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Chan  
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9/30/07

  
**NAY MAUNG**  
**SUPERVISORY PATENT EXAMINER**

